REMARKS

The present amendment is prepared in accordance with the new revised requirements of 37 C.F.R. § 1.121. A complete listing of all the claims in the application is shown above showing the status of each. For current amendments, inserted material is underlined and deleted material has a line therethrough.

Applicants appreciate the thoroughness with which the Examiner has examined the above-identified application. Reconsideration is requested in view of the amendments above and the remarks below.

Applicants note with appreciation that claims 8-19 are allowed.

The remaining claims 1-7 and 20 have been rejected and Applicants have amended claim 1. It is respectfully submitted that amended claim 1 and depending claims 2-7 and 20 are now properly allowable.

Specifically, claim 1 has been amended to define the ferrule for an optical fiber connection as comprising a multi-layer ceramic or silicon wafer body having three or more layers including a top layer and a bottom layer, front and rear sides, and opposed sides. Support for the ferrule having three or more layers may be found throughout the specification and, in particular, starting at the last paragraph on page 8 and continuing to the first paragraph on page 10, wherein the figures are described.

Thus, in Fig. 1, a ferrule is shown comprising three greensheets (3 layers) 11a, 11b, and 11c which are laminated and sintered together to form the ferrule. Through openings 12 are formed in the ferrule to hold the fiber optic cable or fiber optic core. Similarly, Fig. 2 shows a ferrule comprising laminated and sintered greensheets 11a –

11f (6 layers) and having a number of openings 12 extending through the body of the ferrule. Figs. 3A and 3B show a ferrule comprising four (4) ceramic greensheet layers 11a – 11d. Fig. 4 shows a ferrule comprising greensheets 25a – 25g (7 layers).

It is respectfully submitted that amended claim 1 and depending claims 2-7 and 20 are now properly allowable since a ferrule comprising three or more layers is claimed, which ferrule is different and distinct from the prior art as discussed below.

Claim Rejections - 35 USC § 102

Claims 1, 6, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Basavanhally U. S. Patent No. 5,185,846.

Regarding claim 1, Basavanhally is cited to teach a ferrule for an optical fiber connector (Figure 3) comprising a multilayer (layers 14 and 15) ceramic or silicon wafer body (column 2, lines 34-52) having at least a top layer (14) and a bottom layer (15), front and rear and opposed sides (Figure 3, unnumbered), and a plurality of optical fiber through openings (17,18) extending through the body from the top layer to the bottom layer (Figure 3) for holding individual optical fibers (13).

Regarding claims 6 and 7, Basavanhally teaches that the through openings are made by etching (column 2, lines 34-52).

Basavanhally et al. shows an optical fiber alignment apparatus including guiding plate and a securing plate for holding optical fibers. It is clear that the alignment apparatus has only two layers guiding plate 14 and a securing plate 15. Further, there is a gap g between the guiding plate 14 and the securing member 15

and it is noted in the reference at col. 5, the paragraph beginning at line 18, that the separation g of thetwo plates is not critical and that the use of several glass spheres 19 mounted in apertures in the two plates is a convenient method for obtaining a predictable spacing between the plates.

There is no disclosure or teaching in Basavanhally that the alignment apparatus have three or more layers as is now claimed by Applicants and it is respectfully submitted that the claims are properly allowable under 35 USC 102.

Claim Rejections - 35 USC § 103

Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basavanhally in view of US Pre Grant Publication to Hengelmolen, number 2004/0161205.

Regarding claim 2, Basavanhally is cited to teach the limitations of the base claim 1. Basavanhally, however, does not teach alignment pin through openings extending through the body between the top and the bottom. Hengelmolen is cited to teach alignment pin through openings (Figures 1 and 2, element 10a) extending through the body between the top and the bottom. The Examiner concludes it would have been obvious to one of ordinary skill in the art at the time of the invention to include the alignment pin through openings of Hengelmolen in the ferrule of Basavanhally. The motivation would have been to improve alignment with respect to another ferrule (Hengelmolen, page 2, paragraph 25).

Regarding claim 3, Basavanhally is cited to teach the limitations of the base claim 1. Basavanhally, however, does not teach that the optical fiber through openings are tapered. Hengelmolen is cited to teach tapered optical fiber through openings (Figure 2, taper section 10g and page 2, paragraph 29). The Examiner concludes it would have been obvious to one of ordinary skill in the art at the time of the invention to include the tapered optical fiber through openings of Hengelmolen in the ferrule of Basavanhally. The motivation would have been to improve insertion efficiency (Hengelmolen, page 2, paragraph 22).

Regarding claim 4, Basavanhally is cited to teach the limitations of the base claim 1. Basavanhally does not teach that the optical fiber through openings are tapered at the entrance end of the opening. Hengelmolen is cited to teach optical fiber through openings tapered at the entrance of the opening (Figure 2, taper section 10g tapered at entrance end 10e and page 2, paragraph 29). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the optical fiber through openings tapered at the entrance of the opening of Hengelmolen in the ferrule of Basavanhally. The motivation would have been to improve insertion efficiency (Hengelmolen, page 2, paragraph 22).

Regarding claim 5, Basavanhally is cited to teach the limitations of the base claim 1. Basavanhally does not teach that the optical fiber through openings are wider at the entrance end of the opening. Hengelmolen is cited to teach optical fiber through openings, which are wider at the entrance end of the opening (Figure 2, taper section 10g and page 2, paragraph 29 which explicitly teaches that entrance end 10e

is wider than guide section 10d). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the optical fiber through openings, which are wider at the entrance end of the opening, of Hengelmolen in the ferrule of Basavanhally. The motivation would have been to improve insertion efficiency (Hengelmolen, page 2, paragraph 22).

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Basavanhally in view of US Patent to Sizer, II et al., U. S. Patent No. 5,345,529.

Regarding claim 20, Basavanhally is cited to teach the limitations of the base claim 1. Basavanhally does not teach a molded support to hold a portion of optical fibers extending from the ferrule. Sizer is cited to teach a ferrule (Figure 2D, element 230) comprising a support (Figure 2D, support plate 201) to hold a portion of optical fibers (Figure 2D, elements 210 and 220) extending from the ferrule (Figure 2D and column 2, lines 31-66). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the support of Sizer in the ferrule of Basavanhally. The motivation would have been to improve the precision of the mounting of the fibers (Sizer, abstract).

It is respectfully submitted that claims 2-5 and 20 are properly allowable under 35 USC 103.

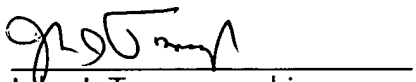
Basically, the Examiner is using Basavanhally et al. to teach the limitations of the base claim 1 with Hengelmolen and Sizer to teach preferred embodiments of the main claim 1. As discussed above, Basavanhally et al. does not disclose nor teach Applicants' invention since it only shows a two layer ferrule. Accordingly, it is

respectfully submitted that the secondary references do not supply the deficiencies of Basavanhally et al.

Applicants acknowledge that Hengelmolen and Sizer show preferred aspects of Applicants' invention but it is respectfully submitted not to show Applicants' claimed ferrule which is now defined as comprising a multi-layer ceramic or silicon wafer body having three or more layers including a top layer and a bottom layer.

It is respectfully submitted that the application has now been brought into a condition where allowance of the entire case is proper. Reconsideration and issuance of a notice of allowance are respectfully solicited.

Respectfully submitted,



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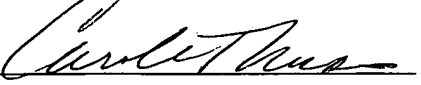
Name: Carol M. Thomas Date: March 29, 2006 Signature: 

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